

**2004 HIGHWAY SAFETY IMPROVEMENT PROGRAM**  
**OHIO RAIL DEVELOPMENT COMMISSION**  
**RAILROAD SAFETY PROGRAMS**  
**Including:**  
**Evaluation of Improvements Made in State FY 2002**  
**And**  
**Summary of State FY 2005 Expenditures**

**Purpose:** The Ohio Rail Development Commission (ORDC) Railroad Grade Crossing Safety Programs provide funding for highway-railroad grade crossing safety improvements or corrective activity designed to alleviate a highway-railroad hazard.

**Effectiveness:** The crashes occurring at public grade crossings in Ohio have shown a steady decline since the early 1970s. The table below summarizes the progression. The State continues to experience a leveling off, with approximately 39% of all crashes occurring at locations with active warning devices.

	Calendar Year						
	1998	1999	2000	2001	2002	2003	2004
Crashes	137	127	143	123	120	112	117
Fatalities	14	19	15	21	20	11	13
Injuries	42	46	40	41	36	44	32

**Funding:** The ORDC Grade Crossing Safety Programs are funded through the Ohio Department of Transportation (ODOT) from the Federal Highway Administration (FHWA) Hazard Elimination Funds and Surface Transportation Program. Historically, ORDC has received \$15 million per fiscal year. This amount exceeds the \$6.3 million set-aside for railroad grade crossing safety in the *Intermodal Surface Transportation Efficiency Act of 1991* (ISTEA) by \$8.7 million. For State FY 2004, the total expenditure of the grade crossing safety programs was \$15,301,712.

### **Fiscal Year 2004 Activities**

#### **CROSSING APPROACH IMPROVEMENTS:**

Activities such as channelization, new or upgraded traffic signals, pre-signals, guardrails and pedestrian / bicycle path improvements near the crossing are funded as part of warning device projects. These types of improvements are not specifically funded as individual projects using Federal funds administered by the ORDC. Frequently, the ORDC assists County Engineers in the administration of local projects that improve the profile improvements at public grade crossings. In addition, the State of Ohio funds grade crossing illumination projects through a state funded "Supplemental Assistance Program" administered by the Public Utilities Commission of Ohio (PUCO).

## **CROSSING WARNING SIGN AND PAVEMENT MARKING IMPROVEMENTS:**

No specific improvements were accomplished in this area in State FY 2004 due to the fact that advance warning signs, crossbucks and pavement markings were upgraded in 1994 at all passive highway grade crossings as part of the *Manual on Uniform Traffic Control Devices* (MUTCD) experiment for the evaluation of the Buckeye Crossbuck. However, in exchange for the funding all rail highway grade crossings improvement projects, the ORDC requires the local public agency with responsibility for the crossing to install pavement markings and signing in compliance with the MUTCD.

## **ACTIVE GRADE CROSSING EQUIPMENT INSTALLATION / UPGRADE:**

This section represents the original *Section 130 Program*. In State FY 2004, the total expenditure of the grade crossing safety programs was \$15,301,712. These expenditures are summarized at the end of this report in a Table titled Summary of State Fiscal Year 2004 Activities. In addition, a summary is provided for expenditures State FY 2005. The summary is at the end of this report and titled Summary of State Fiscal year 2005 Activities.

### **Priority Warning Device Improvements**

By Ohio Revised Code (ORC), the PUCO administers this portion of Ohio's grade crossing safety programs. In order to provide adequate before and after data we are evaluating this category for projects identified and funded in State FY 2002. Eighteen (18) crossings were specifically identified by the Federal Railroad Administration (FRA) Hazard Index. The locations were selected on a state-wide basis. Based on the Diagnostic Reviews that were conducted, seventeen (17) actual light and gate installations were completed under this program. The attached spreadsheet provides before and after crash evaluation for these seventeen (17) locations. This data is representative of a sample of the safety improvements funded in the ORDC's overall program. The total number of crossings funded in this manner is significantly less than prior fiscal years due to an increase in change orders processed for projects funded in past fiscal years. To rectify this, the ORDC has re-evaluated the average cost of a warning device project and currently encumbers a more accurate dollar figure upon the initial selection of the project.

### **Rail Corridor Program**

In an effort to take advantage of economies of scale, the State of Ohio promotes the concept of upgrading segments of rail at one time. In State FY 2004, one primary corridor was addressed, A Norfolk Southern (NS) corridor from Avery to Payne on the Fostoria District (B Line). A total of 69 crossings in the corridor will either receive state-of-the-art lights and gates or be closed to vehicular traffic. For this specific FY forty-seven (47) locations were identified and funded totaling \$5,645,075. All forty-seven (47) crossings received the installation of flashing lights and roadway gates. Projects were funded at an 80-20% split and NS funded all preliminary engineering costs.

### **Fatal Crash Upgrade Program**

The Fatal Crash Upgrade Program was a relatively new program initiated in 2001. When a community in Ohio experiences a fatal grade crossing crash, the ORDC immediately conducts a field review of the crossing. If the field review concludes that an engineering improvement would reduce the chance of another crash, the ORDC immediately addresses the engineering issue with a project to implement corrective action. In FY 2004, the ORDC funded three (3) installations of lights and gates as a result of this program.

### **Grade Crossing Consolidation Program**

In the Grade Crossing Consolidation Program, flexible funds providing local incentive for crossing closures are utilized. The ORDC offers a range of incentives. For example, light and gate installation, surface reconstruction, profile improvement, railroad infrastructure improvements that can benefit the highway user, the creation of parallel roadways and cul-de-sacs.

Crossing closures are increasingly difficult to achieve. In State FY 2004, the ORDC closed six (6) crossings. In exchange for these closures two (2) light and gate installations, three (3) grade crossing surface reconstruction projects and one road relocation project in rural Richland County were performed.

### **County Task Force Program**

The ORDC considers local level grass roots interests in grade crossing safety a critical component of its overall program. The ORDC has assisted in the creation of approximately one dozen County Railroad Safety Task Forces throughout the state. In these Task Forces, ORDC's efforts are often complemented by the work of such rail highway grade crossing safety advocacy groups as "Angels on Track Foundation." ORDC staff holds seats on each of the committees and attempts to partner with the local groups to fund safety projects that they prioritize. In 2004, the ORDC funded several projects:

The Central Columbiana and Pennsylvania (CQPA) in conjunction with the Columbiana County Engineer requested the ORDC perform two light and gate installations on this newly reactivated rail line. Projects were funded on SR 517-6.71 and TR 857.

The Ohio Central Railroad in conjunction with the Village of Dresden in Muskingum County requested the installation of flashing lights and roadway gates at Main Street. The improvement was requested because of the construction of a new school in close proximity. The project was funded at labor/material split with the Ohio Central Railroad. The project was final billed at an unprecedented rate of \$81,095.44, significantly lower than the average cost of \$190,000.

The Paulding County Engineer proposed to the ORDC that in conjunction with the local funding of a profile improvement the ORDC fund flashing lights and roadway gates at CR 79 on the Norfolk Southern Railroad. ORDC accepted the proposal.

### **State Route System Crossing Improvement Program**

The ORDC has targeted crossings that exist on the State System without flashing lights and roadway gates to be upgraded. The ORDC intends to address a few of these crossings each fiscal year.

In FY 2004 the ORDC elected to address three crossings in which ODOT had scheduled highway widening projects and had requested ORDC administer the warning device improvements at the railroad crossings within the parameters of the highway project. Guernsey County SR 209-12.30, Hamilton County US 50-2.82 and Athens County SR 682-7.61 were updated to state-of-the-art flashing lights and roadway gates. In addition, the ORDC selected four additional State System routes for improvement. This established a total of seven crossings being improved into this program.

### **VISIBILITY IMPROVEMENTS:**

These types of improvements are not funded as individual projects using Federal funds. Activities such as crossing illumination, sight distance improvements and vegetation clearance are funded through the PUCO's state funded "Supplemental Assistance Program."

### **ROADWAY GEOMETRY IMPROVEMENTS:**

#### **Surface Reconstruction Program**

The ORDC funds the installation of high type surface material at grade crossings. The program primarily address crossings on the State System and is typically funded by a labor / material split. The ORDC funds the materials and the railroad funds the labor portion of the project. In 2004, the ORDC funded 39 projects.

#### **Profile Improvement**

Frequently, the ORDC assists County Engineers in the administration of local projects that improve the profile improvements at public grade crossings. Activities such as sight distance improvement and elimination of high-profile ("humped") crossings near the crossing are funded as part of the "Supplemental Assistance Program" through the PUCO.

## GRADE CROSSING ELIMINATION:

### Grade Crossing Consolidation Program

In the Grade Crossing Consolidation Program, flexible funds providing local incentive for crossing closures are utilized. The ORDC offers a range of incentives, for example, light and gate installation, surface reconstruction, profile improvement, railroad infrastructure improvements that can benefit the highway user, the creation of parallel roadways and cul-de-sacs.

In 1999, the State of Ohio began the Rail Grade Separation Program developed under the direction of Governor Bob Taft. This program is a 10-year, \$200 million program led by ODOT and ORDC. Annually, the ORDC commits \$2 million to this program. The program will address safety, mobility and economic development concerns from Ohio's local communities and elected leaders. The program is intended to address a minimum of 30 crossings during its 10 year duration. Detailed information on this program can be found at <http://www.dot.state.oh.us/rgsp/>.

Specifically, in 2004, the ORDC closed six (6) crossings. In exchange for these closures, two (2) light and gate installations, three (3) grade crossing surface reconstruction projects and one road relocation project in rural Richland County were performed. The table below summarizes the past five (5) Fiscal Year's closures.

FISCAL YEAR	Number of Closures
1999	24
2000	5
2001	28
2002	5
2003	6
2004	6
<b>Total</b>	<b>74</b>

## GRADE CROSSING INVENTORY UPDATE:

In FY 1999, the ORDC funded the creation of a State of Ohio Grade Crossing Inventory Database. This online tool allows anyone with Internet access to view photographs of the actual crossings as well as query relevant data about the crossing. The PUCO is charged by the Ohio Revised Code (ORC) to maintain the master database for the State. To assist our sister agency, the ORDC solicits updated railroad information when all projects are initiated. ORDC works closely with the PUCO to ensure variables in the database are current.

In addition, data is updated to reflect warning devices improvements and/or modifications made by the State of Ohio. To ensure this, the ORDC requires that photographs are taken at the final inspection of each project and ORDC staff enters these photographs along with updated information about the warning devices into the database.

## Summary of State Fiscal Year 2004 Activities

The following table outlines the funds expended in Fiscal Year 2004.

	<b>Number of Crossings</b>	<b>Cost</b>
Crossing Approach Improvements	0	0
Crossing Warning Sign and Pavement Marking Improvements	0	0
Active Grade Crossing Equipment Installation / Upgrade	83 (17/83 selected by Hazard Index)	\$14,168,302.73
Visibility Improvements	0	0
Roadway Geometry Improvements	27	\$1,371,329.85
Grade Crossing Elimination	6	\$2,550,000.00 (\$2,000,000 for the Grade Separation Program, \$550,000 for 6 crossing closures)
Grade Crossing Inventory Update	See previous discussion on this topic.	

## Summary of State Fiscal Year 2005 Activities

The following table outlines the funds expended in Fiscal Year 2005. This data will be fully reported in the Highway Safety Improvement Program Report submitted in June, 2005. Total expenditures for State FY 2005 are \$17,812,394.73.

Category	Number of Crossings	Cost
Crossing Approach Improvements	0	0
Crossing Warning Sign and Pavement Marking Improvements	0	0
Active Grade Crossing Equipment Installation / Upgrade	74 (21/74 selected by Hazard Index, attached <u>Federal Priority Pick Review Sheet</u> documents hazard rankings for prioritize crossings)	\$14,168,302.73
Visibility Improvements	0	0
Roadway Geometry Improvements	23	\$1,404,092.00
Grade Crossing Elimination	3	\$2,240,000.00 (\$2,000,000 for the Grade Separation Program, \$240,000 for 3 crossing closures)
Grade Crossing Inventory Update	See previous discussion on this topic.	

# Federal Priority Pick Review Sheet

USDOT	County	Date	Rank	WD	Notes
524223P	CUY	2/17/2005	1	GT	Equipped with lights and gates
142386S	DEF	2/17/2005	2	GT	Equipped with lights and gates
523850K	LOR	2/17/2005	3	GT	Equipped with lights and gates
524851V	HAM	2/17/2005	4	XB	Per Jennifer Kaminer, Village Administrator, INOH will remove tracks by May, 2005 Red Bank Rd.
509478Y	FUL	2/17/2005	5	GT	Equipped with lights and gates
152380D	HAM	2/17/2005	6	GT	Equipped with lights and gates
518449M	RIC	2/17/2005	7	XB	Project, 04-225-RR-FED In-service 4/26/2005
532699J	ALL	2/17/2005	8	XB	Project, 05-15-RR-FED
528002B	MAD	2/17/2005	9	GT	Equipped with lights and gates
155808V	WOO	2/17/2005	10	XB	
155742X	PUT	2/17/2005	11	XB	Project, 04-993-RR-FED Due 6/30/2005
503541T	SUM	2/17/2005	12	GT	Equipped with lights and gates
523890H	ATB	2/17/2005	13	GT	Equipped with lights and gates
142348H	DEF	2/17/2005	14	GT	Equipped with lights and gates
524190E	CUY	2/17/2005	15	GT	Equipped with lights and gates
525278F	HAM	2/17/2005	16	XB	Project, 04-973-RR-FED Due 12/31/2005
151334Y	CLE	2/17/2005	17	FL	

502874R	COL	2/17/2005	18	GT	Equipped with lights and gates
481545F	MAR	2/17/2005	19	XB	Project, 04-784-RR-FED In-service 4/27/2005
142007P	SUM	2/17/2005	20	GT	Equipped with lights and gates
142522P	MED	2/17/2005	21	GT	Equipped with lights and gates
840688V	CUY	2/17/2005	22	FL	Project, 05-139-RR-FED Due 2/23/2006
155134D	MOT	2/17/2005	23	GT	Equipped with lights and gates
228797P	SEN	2/17/2005	24	GT	Equipped with lights and gates
155727V	PUT	2/17/2005	25	XB	Project, 05-139-RR-FED Due 2/23/2006
155759B	HEN	2/17/2005	26	XB	
481431T	PIC	2/17/2005	27	GT	Equipped with lights and gates
538767D	SHE	2/17/2005	28	XB	Project, 04-993-RR-FED Due 6/30/2005
473629F	HUR	2/17/2005	29	XB	Project, 05-32-RR-FED Due 2/9/2006
544662D	COL	2/17/2005	30	GT	Equipped with lights and gates
228811H	WOO	2/17/2005	31	FL	Circuitry upgrade under 03-2404-RR-FED. Survey revealed insufficient ROW for placement of gates 4 Flashing lights in service 2/7/2005 Otter Creek Rd
228844V	WOO	2/17/2005	32	XB	Project, 05-104-RR-FED Due 2/23/2006
524629Y	MOT	2/17/2005	33	GT	Equipped with lights and gates
481521S	MAR	2/17/2005	34	XB	Project, 05-32-RR-FED Due 2/9/2006
482561T	FRA	2/17/2005	35	XB	Surveyed 4/6/2005. New rank 255. Will receive street lights from State funds New World Drive
523793Y	LAK	2/17/2005	36	GT	Equipped with lights and gates

155754S	HEN	2/17/2005	37	XB	
509457F	LUC	2/17/2005	38	GT	Equipped with lights and gates
509509V	FUL	2/17/2005	39	GT	Equipped with lights and gates
518450G	RIC	2/17/2005	40	XB	
527817Y	MOT	2/17/2005	41	XB	
502745B	STA	2/17/2005	42	GT	Equipped with lights and gates
142446Y	LOR	2/17/2005	43	FL	Existing devices found sufficient. City Engineer concurred Re-surveyed 3/2005 Team determined devices still sufficient. Oberlin Rd.
155734F	PUT	2/17/2005	44	GT	Equipped with lights and gates
473470N	SCI	2/17/2005	45	FL	Surveyed 9/2003. Insufficient ROW to place gates. Adjacent street would need to closed. Portsmouth will not close street t. Lincoln Rd. 2nd visit, same
155052W	MOT	2/17/2005	46	XB	Project, 04-1471-RR-FED Due 9/29/2005
523893D	ATB	2/17/2005	47	GT	Equipped with lights and gates
505081A	ATB	2/17/2005	48	XB	Surveyed 9/2002. Found to be single switch track with 10mph speed. Team determined existing devices sufficient Rank 163Middle rd
152414V	BUT	2/17/2005	49	XB	Project, 05-185-RR-FED Due 2/23/2006
851548Y	LUC	2/17/2005	50	XB	Project, 05-104-RR-FED Flashing lights only due to ROW Due 2/23/2006
523800G	LAK	2/17/2005	51	GT	Equipped with lights and gates
155649R	AUG	2/17/2005	52	XB	Project, 05-185-RR-FED Due 2/23/2006
523898M	ATB	2/17/2005	53	GT	Equipped with lights and gates
523829E	LAK	2/17/2005	54	GT	Equipped with lights and gates

518464P	RIC	2/17/2005	55	XB	ORDC negotiating closure
152350L	HAM	2/17/2005	56	FL	Survey foun existing de vices sufficient Redon Chickering Ave
155274F	AUG	2/17/2005	57	GT	Equipped with lights and gates
152367P	HAM	2/17/2005	58	FL	Project, 05-185-RR-FED Due 2/23/2006
473569Y	MED	2/17/2005	59	XB	Project, 05-32-RR-FED Due 2/9/2006
155733Y	PUT	2/17/2005	60	XB	Project, 05-104-RR-FED Due 2/23/2006
155753K	HEN	2/17/2005	61	XB	
155716H	PUT	2/17/2005	62	XB	Project, 05-139-RR-FED Due 2/23/2006
155055S	MOT	2/17/2005	63	XB	Project, 05-185-RR-FED Due 2/23/2006
513443E	PER	2/17/2005	64	XB	Project, 05-139-RR-FED Due 2/23/2006
509454K	LUC	2/17/2005	65	GT	Equipped with lights and gates
152393E	BUT	2/17/2005	66	GT	Equipped with lights and gates
523885L	ATB	2/17/2005	67	GT	Equipped with lights and gates
502709F	STA	2/17/2005	68	GT	Equipped with lights and gates
152173J	RIC	2/17/2005	69	FL	Project, 04-1130-RR-FED In service 3/14/2005
518530A	LOR	2/17/2005	70	GT	Equipped with lights and gates
518385D	MAR	2/17/2005	71	XB	
473454E	SCI	2/17/2005	72	XB	
141912Y	MED	2/17/2005	73	XB	



2002 - Projects Funded Under 23 USC 130

## 2002 - Projects Funded Under 23 USC 130

Federal Funding Level in FY 2002 \$16,738,192  
 106 Light & Gate Installations,  
 5 Closures, 39 Surface Reconstructions

COU	ROUTE	RRCO	DOT	QUARTER date of 1240	TOTAL PROJECT COST	HAZARD PREDICTION RANKING	CRASH DATA BEFORE												CRASH DATA AFTER											
							F	I	P	IN	P	F	I	P	IN	P	F	I	P	IN	P	F	I	P	IN	P				
MIA	CR 16, Peterson Rd.	CSX	155204R	4/22/02	\$172,874.04	25	272																							
			Total		\$2,604,533.96																									

PDO - Property Damage Only

\*\*Ranking/After - Takes into consideration all crash data available to date.

After Rank Dated 5/26/2005

19 divided by \$2,604,533.96 = \$137,080.74 Average Project Cost